

## SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER: **HYDRATED LIME**  
OTHER MEANS OF IDENTIFICATION: Calcium Hydroxide  
RECOMMENDED USE: Oilwell drilling fluid and cementing additive  
RESTRICTIONS ON USE: None known  
SUPPLIER IDENTIFIER: **Di-Corp**  
**8750-53 Ave**  
**Edmonton, AB T6E 5G2**  
**780-440-4923**  
EMERGENCY PHONE NUMBER: 780-468-4064 (24 hr)

## SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION: Skin corrosion/irritation – Category 2  
Serious eye damage/eye irritation – Category 1  
Carcinogenicity (inhalation) – Category 1A  
STOT (single exposure) (respiratory tract irritation) – Category 3  
STOT (repeated exposure) – Category 1

LABEL SYMBOLS:



SIGNAL WORD:

**DANGER**

CLASSIFICATION INFORMATION:

Causes serious eye damage.  
Causes skin irritation.  
May cause cancer if inhaled.  
May cause respiratory irritation.  
Causes damage to organs through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:

Obtain special instruction before use.  
Do not handle until all safety precautions have been read and understood.  
Keep container tightly closed.  
Avoid breathing dust.  
Wash hands, face and exposed skin thoroughly after handling.  
Keep container tightly closed. Use only outdoors or in well-ventilated area.  
Wear protective gloves/clothing and eye/face protection.  
IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.  
Store locked up in a well-ventilated place.  
Dispose of contents/container in accordance with local, provincial and federal requirements.  
OTHER HAZARDS: None known.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION (% w/w)
Calcium hydroxide	1305-62-0	>89
Crystalline silica, quartz	14808-60-7	0.0001-1.0

*Any concentration shown as a range is due to batch variation.*

### SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	Quickly and gently brush away excess chemical. Thoroughly flush with running water while removing contaminated clothing. If large area exposed or irritation or burning persists obtain medical attention.
EYE CONTACT:	Flush with gently flowing warm water for minimum 30 minutes, or until irritation ceases; hold eyelids open to ensure thorough flushing. Neutral saline may be used as soon as it is available. Obtain medical attention when flushing is complete and no further irritation is felt, or permanent damage may result.
INGESTION:	Do not induce vomiting. Obtain immediate medical attention. If immediate medical attention is not available; rinse mouth thoroughly with water then give one glass of water followed by one glass of milk if available. If spontaneous vomiting occurs keep head below hips to prevent aspiration of the vomit into the lungs. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	Move to area free from dust. Obtain immediate medical attention. If victim is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
MOST IMPORTANT SYMPTOMS/EFFECTS:	Causes serious eye damage. May cause respiratory irritation. Causes skin irritation. Repeated inhalation of respirable crystalline silica may cause silicosis and/or cancer.
IMMEDIATE MEDICAL ATTENTION/SPECIAL TREATMENT:	Treat symptomatically.

### SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Use media appropriate for packaging and surrounding materials.
UNSUITABLE EXTINGUISHING MEDIA:	Avoid using water unless necessary for other materials, in which case, flood to absorb heat generated. Contact with water will evolve heat and could cause ignition of paper, cardboard, etc.
SPECIFIC FIRE HAZARDS:	Calcium hydroxide can react with metals like aluminum, tin and zinc to form flammable and explosive hydrogen gas. Corrosive calcium oxide fumes can be generated by thermal decomposition at elevated temperatures (as in a fire). Closed containers may rupture violently when heated.
HAZARDOUS COMBUSTION PRODUCTS:	Not available.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus and chemical resistant clothing required for firefighting personnel.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment. Keep spilled material away from organic materials and other incompatible materials. Do not use floor sweep or sawdust to absorb this product, or solutions of this product, as sufficient heat may be generated to self-ignite (Danger: Ignition may be delayed).

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP**

Vacuum up, if possible, to avoid generating airborne dust. Collect uncontaminated material for repackaging. Collect contaminated material in approved containers for disposal. Flush spill area with copious quantities of water.

**SECTION 7: HANDLING AND STORAGE**

**PRECAUTIONS FOR SAFE HANDLING**

This product is corrosive. Wear appropriate protective equipment. Avoid creating dust. Avoid breathing dust. Avoid skin and eye contact. After handling lime, employees must shower. If exposed daily, use oil, Vaseline, silicone base crème etc. to protect exposed skin, particularly neck, face and wrists. Launder contaminated clothing before reuse. Discard contaminated leather articles. Clean spills promptly to avoid making dust.

**CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES**

Store in cool, dry area away from incompatibles. Keep containers tightly closed when not in use. Keep containers away from contact with water. Dry all equipment before use. Wash all equipment thoroughly with water when handling is completed. Empty packages contain residual hazardous material and should be handled as if full.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

EXPOSURE LIMITS:	Calcium hydroxide: ACGIH TLV = 5 mg/m <sup>3</sup> Crystalline Silica Quartz: ACGIH TLV = 0.025 mg/m <sup>3</sup>
ENGINEERING CONTROLS:	Use only with adequate ventilation. If user operations generate dust use process enclosure, local exhaust ventilation or other engineering controls to keep worker exposure below limits.
	<b>PERSONAL PROTECTIVE MEASURES</b>
RESPIRATORY PROTECTION:	Use a properly fitted particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
PROTECTIVE GLOVES:	Rubber gauntlets recommended.
EYE PROTECTION:	Wear tight fitting chemical goggles. Do not wear contact lenses.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Protective clothing as required to prevent contact. Ensure eye-wash station and emergency shower are available.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE:	Grayish-white powder
ODOUR:	Sweet, soil-like odor
ODOUR THRESHOLD:	Not available
pH:	12.45 (saturated solution at 25°C)
MELTING POINT / FREEZING POINT:	580°C
BOILING POINT / RANGE:	2850°C
FLASH POINT:	Not applicable
EVAPORATION RATE:	Not available
FLAMMABILITY:	Not applicable
FLAMMABILITY / EXPLOSIVE LIMITS:	Not applicable
VAPOUR PRESSURE:	Not available
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	2.446
SOLUBILITY:	Not available
PARTION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not applicable
DECOMPOSITION TEMPERATURE:	Not applicable
VISCOSITY:	Not available

**SECTION 10: STABILITY AND REACTIVITY**

REACTIVITY: Absorbs carbon dioxide from the air to form calcium carbonate.

CHEMICAL STABILITY: Stable.

POSSIBILITY OF HAZARDOUS REACTIONS: Exothermic reaction to water. Reacts violently with strong acids. Reacts exothermically with acids and many other compounds and chemical elements to form calcium based compounds. Explosive when mixed with nitro compounds.

CONDITIONS TO AVOID: Avoid dust formation, incompatible products, excess heat and exposure to air or moisture over prolonged periods.

INCOMPATIBLE MATERIALS: Boron trifluoride, chlorine trifluoride, ethanol, fluorine, hydrogen fluoride, phosphorus pentoxide, and acids (violent reaction generating heat and possible explosion in confined area).

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition at 540°C will produce calcium oxide and water.

**SECTION 11: TOXICOLOGICAL INFORMATION**

PRODUCT TOXICITY: See component toxicity below.

COMPONENT	COMPONENT TOXICITY		
	LD50 ORAL-RAT	LD50 DERMAL	LC50 INHALATION
Calcium hydroxide	7340 mg/kg	Not available	Not available
Crystalline Silica Quartz	Not available	Not available	Not available

SKIN CONTACT: If skin is moist, this product will cause severe irritation and burning. Can penetrate skin slowly, producing soft, necrotic, deep chemical burns. Prolonged or repeated contact may cause eczema.

EYE CONTACT: Corrosive solid. Will cause severe irritation. Solid will react exothermically with water. Direct contact may cause conjunctival edema and corneal destruction; can lead to, and may cause, blindness.

INGESTION: Can cause burning and edema of digestive tract, abundant salivation, difficulties in swallowing and breathing, vomiting blood, drop in blood pressure (indicates perforation of esophagus or stomach).

INHALATION: Dust, or mists formed from concentrated solutions, is very irritating to the upper respiratory tract. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia have been attributed to the inhalation of calcium hydroxide dust. Limited solubility of the product in water means that effects may continue for several days. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Long-term inhalation of crystalline silica may cause silicosis; a progressive, disabling and sometimes fatal lung disease. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Chronic inhalation exposure to crystalline silica quartz has been observed to cause lymph node effects, kidney effects and auto-immune disease.

CARCINOGENICITY: Calcium hydroxide is not listed by IARC, NTP, OSHA or ACGIH. However, hydrated lime could contain crystalline silica, which when inhaled in the form of quartz from occupational sources is carcinogenic to humans: IARC has concluded that this chemical is carcinogenic to humans (Group 1); ACGIH has designated this chemical as a suspected human carcinogen (A2); NTP has listed this chemical as a known human carcinogen.

TERATOGENICITY: No information available.

REPRODUCTIVE TOXICITY: No information available.

MUTAGENICITY: Crystalline silica has been shown to cause mutagenic effects in human cells in-vitro.

CHRONIC TOXICITY:	Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Long-term inhalation of crystalline silica may cause silicosis; a progressive, disabling and sometimes fatal lung disease. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Chronic inhalation exposure to crystalline silica quartz has been observed to cause lymph node effects, kidney effects and auto-immune disease.
TARGET ORGAN EFFECTS:	Not available.

## SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:	Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.
PERSISTENCE AND DEGRADABILITY:	Not applicable to inorganic materials.
BIOACCUMULATIVE POTENTIAL:	This material shows no bioaccumulation effects of food chain concentration toxicity.
MOBILITY IN SOIL:	No data available.
OTHER ADVERSE EFFECTS:	This material is alkaline and if released into water, or moist soil, will cause an increase in pH.

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be recycled, or disposed of, in accordance with local regulations.

## SECTION 14: TRANSPORTATION INFORMATION

TDG	Not regulated
DOT	Not regulated
IATA	Not regulated
UN NUMBER:	Not applicable
PROPER SHIPPING NAME:	Not applicable
CLASS:	Not applicable
PACKING GROUP:	Not applicable
IMDG HAZARDS:	Not regulated
BULK TRANSPORT:	Not regulated
SPECIAL PRECAUTIONS:	None

## SECTION 15: REGULATORY INFORMATION

DSL:	Listed
WHMIS CLASS:	D2A, E
TSCA:	Listed

## SECTION 16: OTHER INFORMATION

REVISION DATE:	April 25, 2018
REPLACES:	June 3, 2016

The information contains herein is given in good faith, but no warranty, expressed or implied, is made.